

Comments on GridWise Architecture Council / NIST Home-to-Grid Domain Expert Working Group Requirements

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Please identify the location of each comment by page and line number. Provide your comment and your proposed change, if any.

E/G/T: E = editorial (typo, grammar, clarification), G = general, T = technical

ID = (Company initials)-(comment number); e.g., NIST-1 for first NIST comment; NIST-2 for second NIST comment

Page	Line	E/G/T	ID	Comment	Proposed change	Resolution by subcommittee
		G	LBNL/DRRC-1	The current version of this H2G report does not clearly present the range of home-to-grid implementation options. There is no single, uniformly accepted approach to the implementation of home-to-grid options. For example, one scenario should address a "market based" approach, where customer programmed, price responsive appliances with embedded controls "listen" and respond automatically based on customer selected options to utility broadcasts of standard, open protocol price and event signals. A scenario at the other extreme would address, as the report already does, a more conventional approach where the utility provides control signals and monitors customer appliances and response for compliance. This report should clearly present a full range of implementation scenarios and discuss the technical, market, regulatory and operational strengths and weakness of each.		Accommodated by current text plus changes.
5	120	T	LBNL/DRRC-2	The reference to 46% and "average rate of power generation" should be explained or removed.		Accepted. Text removed.
5	122	T	LBNL/DRRC-3	Spinning reserve is online generation, held in reserve that can be dispatched to respond to system shortages due to either increased demand or unplanned outages. Spinning reserve is usually expressed as a percentage of the system kW peak load. Please explain or remove.		Accepted. Concept clarified. Term "spinning reserve" removed.

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5	124	E	LBNL/DRRC-4	A primary concern of regulators and customers is the cost of new generation.		Accepted. Text inserted.
5	126	ET	LBNL/DRRC-5	Again, reference and use of the term “Spinning Reserves” should be clarified..		Accepted. See LBNL/DRRC-4.
5	136	ET	LBNL/DRRC-6	DSM programs focus on demand (kW) not necessarily efficiency. Rebates for CFL’s and efficient appliances are not included in DSM, correct this reference.		Accepted. Clarified “energy management” and DSM.
6	153	ET	LBNL/DRRC-7	Customers modulate performance settings, turn off loads or shut down production lines – they don’t “remove equipment from the power grid”		Accepted. Text changed.
6	157	ET	LBNL/DRRC-8	AC units typically are controlled to limit their run time to 0-15 minutes each half-hour for up to 6 hours each control day. Water heaters are generally turned off entirely for 2-6 hours.		Accepted. Text changed.
6	167	ET	LBNL/DRRC-9	What the author is describing is a time-of-use rate (TOU). Please explain.		Accepted. Text added.
7	176	ET	LBNL/DRRC-10	Distributed Load Control is characterized by “customer control”, not utility control. Second, utilities have the right and capability to “change prices at will” only with selected real-time rates, which are very rare in residential applications per the example. Please describe the more common price-responsive options like critical peak pricing.		Accepted. Added clarifying text.
8	203	ET	LBNL/DRRC-11	The author should differentiate between control signals and price signals. Control signals are representative of “direct control” not price-responsive or “distributed control” applications.		Accepted. Added new text to Section 3.5.
8	209	ET	LBNL/DRRC-12	While an EMC may be useful, it is not necessary to support DR. Second, individual appliances can be scheduled independently. Please clarify.		Accommodated. Explained that appliances can respond to DR independently or can respond in a coordinated fashion with an optional EMC.
10	237	E	LBNL/DRRC-13	Utilities or third-party providers can directly control or they can provide price signals that the customer uses to guide their response.		Accepted. Clarifying text added.

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10	264	ET	LBNL/DRRC-14	This statement requiring two-way communication/acknowledgment arbitrarily rules out all one-way communication options. This restriction would in effect outlaw the vast majority of existing utility DR options. This restriction is unnecessary. Please distinguish between packet acknowledgement and application acknowledgement.		Accepted. Added text to require acknowledgement of transmitted data or control packet received without error.. Acknowledgement of message as meaningful or as executed is not a requirement.
10	272	ET	LBNL/DRRC-15	This statement imposes overly restrictive functional requirements on DR devices, which also has substantial cost implications. This type of reporting also imposes substantial communication costs on the return path – which is not specified. Second, this statement requires functionality that will have substantial security and privacy implications. Override reporting is necessary only for utility run, direct control options that incorporate “fixed participation” incentives. Override reporting is unnecessary for price responsive options. Please remove.		Accepted. Text removed.
11	274	ET	LBNL/DRRC-16	This functionality may be in conflict with individual appliance designs.		Noted. Delaying restoration of power by a few seconds after a power outage will not affect an appliance. Clarified that if no EMC is present, delayed restoration is an optional feature for an appliance.
3	58, 60	GT	LBNL/DRRC-17	Include a reference to DR programs being considered in this report – Dynamic pricing, reliability, etc. Introducing this will help understand requirements better.	Consider inclusion	Accepted. Text added.
4	84	G	LBNL/DRRC-18	The requirements mention “residential” and “home” DR systems. How is this distinguished? Residential is all systems (supply and demand-side) and home is everything inside the meter or (so-called) utility gateway? The terminology is not clear on this.	Consider brief explanation	Accepted. Text added.

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4	85	T	LBNL/DRRC-19	The term “controller” technically indicates lack of device intelligence to facilitate customer choice. Instead something like “energy manager” or scheduler, etc. would be preferred.	Consider changing the terminology	Noted. Added explanation of EMC. Did not change term since it is already included in published reports elsewhere.
4	97	T	LBNL/DRRC-20	Technical definition of “smart appliances” needs clarity. Future appliances can communicate directly to utility and manage DR without the need of any supporting systems. What requirements are necessary here for interoperability and integration? Where does existing/PCT/PCD fit within HAN devices?	Consider making provisions for future needs.	Noted. Clarifying text added.
6	148	G	LBNL/DRRC-21	Recommend excluding term “control.” The technology for control over manage need to be encouraged. Where necessary, better explanation of the control means and how the technology requirements are still flexible to facilitate customer choice helps	Consider rethinking the term with something like “manager”.	Accommodated. Replaced “Demand Response via Utility Control” with “Demand Response Methods” and expanded the text in Section 3.3.
9	214	T	LBNL/DRRC-22	The figure shows 2-way communication (usage data) whereas most of the focus, including security, on requirements is on signals reaching the home. Including requirements for these are essential for design of better standards, communication models, and technologies that meet the specification.	Consider explaining the 2-way communication requirements in little more detail.	Accepted. Text added to explain the data flows and security requirements.